

Devi Ahilya University Indore, India Institute of Engineering & Technology				II B.E. (Civil Engineering) (Full Time)				
Subject Code and Name		Instruction Hours			Credits			
VLR5C1: Design of RCC Structures – II		L	T	P	L	T	P	Total
		3	1	2	3	1	1	5
Duration of Theory Paper: 3 hours		3	1	2	3	1	1	5

Learning Objectives:

- 1 . To bring about an understanding of the behavior of advanced reinforced concrete structures.
- 2 . To bring about an understanding of the analysis and design philosophies for advanced reinforced concrete structures.
- 3 . To perform analysis and design of advanced reinforced concrete members.

COURSE CONTENTS

Unit-I

Design of Multistory Buildings - Sway and Non sway buildings, Shear walls and other bracing elements.

Unit-II

Earth Retaining Structures: Cantilever and counter fort types retaining walls.

Unit-III

Water Tanks: Tanks on ground and underground tanks: Square, rectangular, circular tanks,

Overhead tanks: square, rectangular, circular & intze tanks.

Unit -IV

T-beam & Slab bridges- for highway loading (IRC Loads).

Unit -V

Prestressing concepts materials, systems of prestressing & losses

Introduction to working & limit State Design.

NOTE: - All the designs for strength and serviceability should strictly be as per the latest version of IS:456,IS:13920,IS:1893,IS:875,IS:3370,IRC: 6 ,IRC 21; Use of SP-16 (Design aids)

Suggested Books: -

1. Plain & Reinforced Concrete Vol. I & II – O.P. Jain & Jay Krishna
2. Advanced Reinforced Concrete Design by P.C.Varghese ; Prentice Hall of India, New Delhi
3. Design of Reinforced Concrete Elements by Purushothman; Tata McGraw Hill, New Delhi
4. Reinforced Cement Concrete by Gupta & Mallick, Oxford and IBH
5. Design of concrete Structure – B.C. Punnia&A.K.Jain ; Laxmi publication
6. Advanced Reinforced Concrete Design by N.K.Raju;CBS publisher
7. Essentials of Bridge engineering – D.J. Victor
8. Bridge Engineering - Ponnuswamy

Learning Outcomes:

On completing the Course, the student will be able to:

1. Understand the general behavior of advanced reinforced concrete structures.
2. Understand the principles involved in analysis and design of advanced reinforced concrete structures.
3. Analysis and design of reinforced concrete Multistory Buildings.
4. Analysis and design of retaining walls.
5. Analysis and design of reinforced concrete Water Tanks.
6. Analysis and design of reinforced concrete bridges.
7. Understand the principles of prestressed concrete.
8. Analysis and design of prestressed reinforced concrete members.
9. To employ the code of practice for design of reinforced concrete structural members and elementary structural systems.